New York Notebook, N-81-09-13.2

This notebook is undated but was probably used sometime during the 1880s. It is the second of two books containing notes about arc and incandescent lighting patents issued to various inventors between 1879 and 1881. The entries consist of copies of the claims for those patents previously recorded in Notebook N-81-09-13.1. The book contains 192 numbered pages.

Blank pages not filmed: 170-192.

Moffatt - Chichester
248309

Claims

#1 In an electric lamp the combination of the electro magnets B and M located in the main circuit and the electro magnet N located in a shunt circuit for the purpose of forming and regulating the arc substantially as herein specified.

#2 In an electric lamp, the combination of the electro magnets M and N ~~[illegible]~~ the lifting armature K.K the carbon rod P and mechanism to check and regulate the feed of the carbon substantially as herein specified.

#3 In an electric lamp the combination of the electro magnet M located in the main circuit and the electro magnet N located in a shunt

circuit said magnets having poles of like nature acting upon the same armature substantially as and for the purpose specified –

#4 In an electric lamp the combination of the electro magnets M and N the lifting armature K K' the carbon rod P and the lever brake S constructed as described so that the action of magnetic attraction and repulsion will each be check and regulate the feed of the carbon substantially as herein specified

Knowles #246957
Claims

#1 In an electric light a magnet connected with a generator of electricity in combination with a hollow armature core surrounding the upper holding rod and two compound levers the upper arms of which are secured to the armature core the lower arms having inner cam shaped ends to form a clutch being secured to a sleeve passing around the carbon holding rod said levers being alternately tightened and loosened by the rising and falling of the armature core substantially as set forth –

#2 In an electric light the combination with a magnet a hollow armature core carbon holding rod and

collar I of the levers J.K actuated by the armature core whereby the feeding rod is alternately clamped and unclamped as the levers are straightened or bent by the rising and falling of the armature core substantially as set forth.

#3

In an electric light the combination of an electro magnet a hollow armature core collar I hollow adjusting screw surrounding the carbon holding rod and two compound levers substantially as and for the purpose set forth

#4

The combination of the magnet A hollow core D rod B collar I and compound levers J.K as set forth.

McTighe #246178

Claims

1st

In an electric lamp in combination with the carbon feeding helix and carbons an independent conductor around said helix and carbons provided with an electro magnetic cut off substantially as described whereby the said independent conductor is automatically opened or cut upon the passage of a current and closed by a cessation of current.

2nd In an electric lamp ~~in combination with the carbon feeding helix~~ an electrical helix of substantially no resistance in circuit with the electrodes in combination with two conductors of substantially no resistance connected respectively to the main line on opposite sides of the helix and electrode circuit a spring circuit closer constructed and adapted to normally close said conductors

together and an electro magnetic device constructed and adapted to open said circuit closer upon the passage of a current substantially as described —

3rd In an electric lamp having an electro magnetic device feeding the positive carbon downwards by the combination therewith of an independent electro magnetic device arranged and adapted to feed the negative carbon upwards by an substantially half the speed of descent of the positive carbon —

4th The combination of hollow tubular magnet D. E in the carbon circuit disk armature F convergent spring clutches c frame C and carbon H said magnet D E having a shouldered recess for the reception of the clutches c substantially as described —

5th The combination of magnet D E in the carbon circuit with armature M lever L spring K contacts g K and plate on conductor f connected to post B said contacts g bring in direct circuit with post C substantially as described.

Levison #227026

Claims

1st

In an electric lamp the combination of an electro magnet the clamping plate (or the equivalent device hereinbefor described and shown in Fig 3) and a spring acting to support the armature of the electro magnet and the carbon holder -

2nd

In an electric lamp the combination of an electro magnet a compound spring or bar composed of two metals of unequal expansibility and acting to support the clamping plate (or equivalent device hereinbefor described and shown in Fig 3) the armature of said electro magnet and the carbon holder -

#3

The connection of the compound spring (or the armature attached thereto) with the carbon holder and its case or guide by means of a mercury cup and wire so as to form a second or safety circuit passing from said spring or armature to the carbon holder -

4th

The wire m so arranged that one end may be connected with any point of the compound spring or bar M and the other end may be connected with the return wire of the circuit to regulate the effective length of said compound spring or bar as hereinbefor described -

5th

The connection of the carbon holder and mercury cup attached to its case or guide by means of a wire so as to form a second or safety circuit passing

from the carbon holder to its case or guide –

#6th

The combination of a battery independent of the main circuit and electro magnet and its armature and the compound or simple bar or spring. N as and for the purpose described –

Edison #239 811

Claims

1st

In an electric lamp the magnet and its armature and the springs for clasping and adjusting the lower carbon the said magnet being in a shunt circuit from the main lighting current and actuated thereby in combination with a brake piece as described. a magnet actuated by the main lighting current and its armature said brake piece making and breaking the current of the magnet adjusting the lower carbon substantially as herein specified –

2nd

In an electric lamp the combination of a fixed and a fixed or adjustable cone acting to support & feed the upper carbon substantially as described –

3rd

In an electric lamp, the combination with a magnet in the arc or light-circuit and its armature, of a brush piece magnets for feeding the upper and lower carbons, connections, and contact points as described whereby the current to the magnets feeding the lower carbon is broken before the current to the magnets for feeding the upper carbon is made — substantially as specified —

4th In an electric lamp the combination of a magnet its armature and an insulating spring metallic surfaces circuits applied and two or more contact points whereby said armature may open or close branch circuits to operate the magnets that control the feeding mechanism of the lamp substantially as described —

5th

An electro magnet, its armature an insulating spring provided with contact plates carrying said armature contact points and a three branched connection with an electric source, all arranged substantially as shown and described so that the lighting circuit will not break itself but will be automatically changed in direction & distributed to the carbon points and to magnets operating the feeding mechanism at proper points as set forth —

6th

In an electric lamp, the combination with a carbon holder of a lever, a spring and a clay or porcelain plate constructed as described whereby the porcelain is broken between the carbon points & the circuit broken when the carbon is sufficiently consumed —

Wooley # 24112

Claims

1st In an electric lamp the combination of a polygonal frame A a series of supporting springs which are affixed to opposing corners of the frame substantially as shown —

2nd In an electric lamp the combination of the carbon holder E a sliding collar F placed thereon the lever C pivoted upon this collar and provided with an armature C' a device for regulating the distance the outer end of the lever shall rise and the electro magnet H the inner end of the lever forming a clamp for lifting the carbon holder upward substantially as described —

3rd The combination of a carbon holder a sliding collar placed thereon a friction clamp placed for the collar and provided with

an armature, an electro magnet and a stop whereby as the friction device is raised upward carrying the carbon holder with it the outer end of the friction clamp is arrested by means of a stop so as to release the carbon holder while the friction clamp remains suspended substantially as shown —

4th In an electric lamp the combination of an electrically operated friction clamp for raising the carbon holder and a second electrically operated friction clamp to prevent the carbon holder from descending too rapidly from its own gravity substantially as specified —

5th In an electric lamp the combination of the helix J the perforated armature and a spring for withdrawing the armature from the helix and from against the side of the carbon holder with a friction clamp device and an electro magnet for operating the same substantially as shown —

Best. # 245933

Claims

1st

In an apparatus for electric lighting, the carbons and horizontal rock shafts provided with grand sectors in combination with a friction sector mounted on one of said rock shafts and with means for actuating it substantially as shown and described.

2nd

The combination of the electro magnet the armature lever H provided with flexible insulating piece H' the support M' and shaft E provided with friction sector K all substantially as described and for the purpose set forth.

3rd In combination with electro magnet C armature lever H provided with the insulated piece H' and with a retractile spring supported M' having means for its

adjustment as described, and the shaft E provided with a friction sector K.

Wood #233589

Claims

1st An electric lamp substantially such as described having the armature or equivalent movable or actuated part of its regulating magnet organized to act as a contact-maker to throw a resistance coil or equivalent conductor equal to the normal arc or thereabouts into circuit when the said part retires fully from the magnet substantially as and for the purpose set forth —

2nd In an electric lamp substantially such as described the combination with the regulating magnet thereof and its armature or equivalent arranged in the general circuit and a conducting stop against which such armature retires of a resistance coil or equivalent conductor having one end in the general circuit and the opposite end connected with said stop

substantially as and for the purpose herein shown and described —

3rd In an electric lamp a resistance coil wound upon the rod or tube whereby the lamp is suspended substantially as and for the purpose set forth —

Hasbins # 237271

Claims

1st The combination with the carbon holders in an electric lamp of mechanism for gradually moving the carbon holder a swinging frame for such mechanism an armature, electro magnet and a spring that is compressed by the action of the armature and electro magnet substantially as set forth.

2nd The combination with the carbon holders in an electric lamp of an electro magnet to draw one carbon from the other and establish the arc an electro magnet for a motor placed in a branch circuit leading to the lamp and mechanism operated by the magnetic motor for feeding the carbons substantially as set forth.

#3 The combination in an electric lamp of a carbon holder a magnetic motor and gearing for moving one carbon toward the other a detent for stopping the motor and an electro magnet for withdrawing the detent and allowing the motor to operate substantially as set forth.

4th The motor magnets the working shaft V and arm C in combination with the detent and its electro magnet and mechanism for connecting the motor to the carbon holder for feeding the same and a swinging frame for carrying the motor and an armature and main electro magnet substantially as set forth.

5th In combination with the electrodes in an electric light two electro magnets in branch circuits leading to the light one of which

electro magnets acts upon an armature to establish the electric light, the other acting as a motor upon mechanism that feeds the carbon and a third electro magnet in a shunt of high resistance passing around the light and a detent operated upon by such electro magnet to liberate the motor substantially as set forth.

Smithers # 240,781

Claims

1st The combination with an electric lamp of a sensitive electro magnetic device arranged in constant circuit with the carbons or luminant part of the lamp and acting by the strengthening or weakening of the deflection or attraction of its movable part to serve as a contact maker and breaker to throw a motor or regulating magnet controlling the regulating mechanism into or out of circuit substantially as herein set forth.

2nd An electric lamp constructed with a galvanometer or equivalent sensitive electro magnetic device having its coil arranged in constant circuit with the luminant part of the lamp and having its needle or movable part acting to make and

break an electric circuit which serves to regulate the luminant part of the lamp substantially as herein set forth.

3rd

The combination in an electric lamp of an electric magnetic motor normally out of circuit and arranged to propel the regulating mechanism of the lamp with a circuit-breaking and closing device arranged constantly in the main or luminal circuit and operated by the variation thereof to throw the said magnetic motor into or out of circuit substantially as and for the purpose herein set forth.

Bernstein #243196

Claims

1st The combination of an electric lamp placed in the main circuit with sets of resistance coils placed in a branch circuit, ~~of a metallic connection or bridge~~ and with electro regulating appliances placed in a metallic connection or bridge between the main and branch circuits substantially as specified —

2nd The combination of an electric lamp placed in the main circuit of sets of resistance coils placed in the branch circuit of a metallic connection or bridge between the main and branch circuits and of electro magnets and mechanism attached thereto to regulate the distance between the carbons the electro magnets and regulating mechanisms being arranged within the bridge substantially as set forth —

3rd

The combination on an electric lamp and of an electro magnet both placed in the main circuit and sets of resistance coils placed in a branch circuit with electro regulating appliances placed in a metallic connection or bridge of the main & branch circuits and of a third branch circuit and contact devices whereby the lamp and electro magnet are cut out and the current short circuited over the contact devices substantially as described –

4th

In an electric lamp the combination with a lamp placed in the main circuit and with electro regulating appliances placed in a metallic connection or bridge between the main and branch circuits of a shunt circuit having a spring acted contact-lever and insulated stop, and of axial electro magnets the vertically suspended cores of which actuate the shunting lever substantially as set-forth –

Hill #246390

Claims

1st

In an electric lamp the combination substantially as herein before set forth of a switch or cut out mechanism and a detent which holds the switch or cut out mechanism open. and is operated by or from the feed rod to release said switch mechanism at the time and in the manner substantially as specified -

2nd

In an electric lamp a switch mechanism consisting of a stationary plate having electric connection with one pole of the lamp a vibratory or movable lever or arm having electric connection with the opposite pole of the lamp and a spring or its equivalent which moves the lever toward the stationary plate. in combination with the feed rod and a detent or catch adapted to

hold the switch lever out of contact with the stationary plate. and operated by or from the feed rod to release said switch lever at the time and in the manner substantially as herein - before set forth -

3rd

In combination with the side rods of the lamp. the globe or shade holding ring having bracing arms K.L. the latter formed with two bearings P.P and provided with a cam I substantially as and for the purposes shown and described.

4th

In an electric lamp a device for in casing the feed rod and its connecting parts consisting of the tubular case O secured to the top plate of the lamp and arranged to enter the opening in the globe as it is ~~[illegible]~~ raised. and having flitted thereto the flange t arranged to cover the opening in said globe and to move with it when it is raised

substantially as shown and in the manner described.

3rd

In an electric lamp the combination with the moving carbon feed rod of a normally held open switch or cut-out mechanism released by the action of said rod at predetermined times substantially as specified and arranged & operating when so released to automatically close and remain closed without reference to the after movements in either direction of the feed rod and a handle whereby said switch mechanism can be reset in its open position substantially as herein before set forth.

Werderman # 240795

Claims

In an electric lamp or lighting apparatus in which the light is produced between two electrodes substantially as described, the combination with the two electrodes of devices connecting with a swinging or other adjustable holder for one of the electrodes and arranged to be operated thereby, and to control the movement of the lower electrode by lateral pressure thereon substantially as described.

2nd In an electric lamp or lighting apparatus in which the light is produced between two electrodes one of which bears continuously upon the other, the combination with the electrode c and mechanism for feeding the same of the electrode b arranged to bear upon the lower electrode, and connected with devices adapted to au-

-tomatically control the feed of the electrode c substantially as described –

3rd

In an electric lamp or lighting apparatus in which the light is produced between two electrodes substantially as described, the combination of the electrode c with the two part holder i and devices connecting with a swinging holder of the upper electrode and arranged to be operated thereby and to regulate & control the lateral pressure of the two part holder upon the electrode c substantially as described.

4th

The combination with the electrodes b.c in an electric lamp or lighting apparatus of the mechanism pivoted holder for the electrode b the two part

holder i through which the lower electrode c is fed, and devices connected with the pivoted holder b^2 and arranged to bear against the hinged part of the holder i substantially as described –

5th

The combination with the two electrodes b.c in an electric lamp or lighting apparatus of a mechanism connected with the pivoted holder of the electrode b and adapted to act against the hinged or movable part of the two part holder i, said mechanism being constructed to automatically establish a short circuit in the apparatus after the electrode b has dropped to a certain extent – substantially as described.

Mooley. # 243748.

Claims

1st In an electric lamp the combination of a hollow carbon holder and a regulating mechanism the moving parts of the mechanism being placed in the carbon holder substantially as shown –

2nd In an electric lamp the combination of a helix or axial magnet – a core a hollow carbon holder and a regulating mechanism the moving parts of which are placed in the holder and operated by the core and helix substantially as described

3rd The combination of the hollow carbon holder a dash or plunger and a regulating mechanism the moving parts of which are placed therein, the distance that the regulating mechanism shall move being controlled by the dash substantially as set forth –

4th In an electric lamp the regulating mechanism or device composed of a frame and a pivoted lever in combination with a core which raises the mechanism and carbon holder upward the carbon holder and helix substantially as described –

5th In an electric lamp the combination of the tube C having the axial magnet applied to its upper end a hollow carbon holder which forms a dash pot the

the Cor N having the rod O fastened to it and a clamping device which is placed in the dash pot and which is operated by the cor so that when the cor is raised upward the clamp will engage with the inner side of the dash pot & raise the carbon holder upward substantially as shown –

Bureau # 242747

Claims

1st

In an electric lamp the combination with two converging electrodes arranged to feed by gravity of a block of refractory material provided with converging passages or sockets in which the bodies of the electrodes are received and hidden from view the lower face of the block being cut out like a vault for the light, substantially as set forth –

2nd

The combination of the carbons C with guide block M and conducting rods T turning on centers substantially as and for the purpose described

3rd The combination of the carbons "C" with guide block M inclosed in casing D conducting rods T turning on centers, and suspension

frame & substantially as and for the purpose described –

Keith #242137

Claims

1st The combination with the lifting electro magnet of an electric lamp of a resistance coil loops or connections therefrom at various points and a circuit closer operated by said electro magnet the whole so arranged that as the carbons are separated the divisions of the resistance coil are successively cut out of circuit –

2nd The combination with the electro magnet of an electric lamp which serves to separate the carbons to a regulated distance of a resistance coil in the principal or direct circuit

with said electro magnet and a circuit closer which determines the number of coils in circuit all so arranged that as the carbons are separated by the attraction of said electro magnet the total resistance of the coil diminishes –

3rd The combination with the armature of an electro magnet which controls the length of arc in an electric lamp of an artificial resistance loops or wires leading therefrom at graduated points in said resistance and rocking circuit closer connected to the armature the whole so arranged that as the armature is attracted the rocking circuit closer makes successive contact with the loops of said resistance so as to cut the divisions thereof successively out of circuit –

4th In combination with the ~~electro~~ regulating electro magnet of an electric lamp which serves to control the length of arc a resistance at another point in the same principal circuit with the arc and circuit closing devices controlled by said regulating ~~magnet~~ electro magnet the whole so arranged that the ~~at~~ regulating electro magnet operates the circuit closer and diminishes the resistance simultaneously with ~~the~~ its operation in increasing the length of arc substantially as and for the purpose described.

5th The combination with the ~~electro m~~ regulating electro magnet of an electric lamp of the resistance helix A wires B form C and locking circuit closer D operated by said electro magnet.

6th The combination of the lifting or separating electro magnet of an electric lamp with the rocker D and link K substantially as described.

Woolley #243749

Claims

1st The combination of a stem having a hole through its end and provided with a set-screw, with a carbon or electrode holder made in two parts which are united by a solder or other substance which fuses at a low temperature and a chain for holding the carbon holder when detached from the stem substantially as shown.

2nd In an electric lamp a carbon made in two parts which are connected together by

solder or other substance which will fuse at a low temperature, so that in case the holder should become heated the two parts will separate substantially as described —

3rd In an electric lamp the combination of a carbon or electrode holder which is made in two parts and united together by a substance which fuses at a low temperature with a chain which is fastened to both parts substantially as described

4th In an electric lamp the combination of the stem A having a non-conducting substance secured to its lower end with a carbon or electrode holder made in two parts which are secured together by a substance which is fusible at a low temperature

and a chain which is fastened to both parts for the purpose of preventing one of them from falling substantially as and for the purpose shown —

5th A carbon holder or guide composed wholly or partly of metal which fuses at a low temperature substantially as described —

6th A carbon holder made in two or more parts which are united together by a solder or made wholly of a metal which fuses at a low temperature in combination with a chain or other suitable device for preventing the carbon or its holder from falling substantially as specified —

Wallace #198436

Claim

1st

The herein described electric lamp consisting of a pair of carbons each presenting an extended edge parallel to each other combined with means for holding said carbon and connection with the respective poles substantially as described —

King #200545

1st Claims

The two carbons of an electric light arranged diagonally to each and for in their holders combined with mechanism substantially such as described to grasp the said carbons while the circuit is unbroken but to release them immediately on the breaking and force them to the focusing point independent of their holders substantially as described —

2nd

The combination in an electric light of two carbons arranged diagonally to each other and for in their holders with a hinged focusing guide to automatically come to the focusing point when the circuit is broken and to be turned away as ~~down~~ as the circuit is made — substantially as described.

Altenreck #243341

Claims

1st In an electric lamp in combination with the carbon holders two solenoids or electro magnets one of which has a coil of low resistance forming a part of the lamp circuit and the other has a coil of higher resistance forming a part of a by pass circuit by the differential action of which the carbons are adjusted –

2nd The combination of the regulating stem A carrying the carbon slide of an electric lamp with the levers C, C' Cross S and S' and solenoid coils R and T substantially as herein described

3rd The combination of the regulating stem A with carbon slides S having rack teeth

gearing with a pinion on the axis of the escapement wheel X or the pendulum P having a tail m engaging with a notch in the arm Z and the fixed stud V constructed and operating substantially as herein described –

WESTON #240210

1st An electro magnet, an armature the opposed parts of which ~~the other~~ are respectively in the form of a cone and of a hollow cylinder the armature having a range of motion permitting the cone to enter the hollow cylinder when the armature yields to the attraction of the magnet substantially as and for the purpose described –

2nd An electro magnet having a longitudinally hollow core in combination with a conically pointed movable armature having a range of motion permitting its conical point to enter the tubular pole of the magnet – substantially as and for the purpose described –

3rd In combination with an electro magnet provided with a hollow core and a conically pointed movable armature an adjusting device by means of which the range of movement of the lever to which the armature is attached may be adjusted substantially as described

4th In an electric lamp the combination of a main circuit of small resistance which includes the carbons and the principal coil surrounding the electro magnet with a derived circuit of large resistance which includes a coil wound differentially upon the electro magnet and a circuit adapted to close the derived circuit whenever the resistance in the main circuit is increased to a prescribed amount by the too great separation of the carbons substantially as and for the purpose set forth.

5th In an electric lamp the combination of the carbons with a differential magnet the two oppositely wound coils of which are respectively included in the main circuit which includes the carbons and in a derived circuit whereby the distribution of the current in the two circuits is automatically dependent upon the progress of the combustion of the carbons substantially as described —

6th In an electric lamp in which the force of gravity tends to diminish the distance between the points of the carbons a lever to which at one end a movable carbon is suspended and upon which at the other end an armature is affixed in combination with an electro magnet, the opposed parts of the armature and magnet being respectively conical and tubular whereby

the armature has a prescribed range of movement in the magnetic field during the whole of which there no material variation in the amount of attractive force exerted upon it by the magnet substantially as and for the purpose set forth —

7th The clamp K composed of the pivoted clamping jaws K K respectively linked to the forked end of the rocking armature lever in combination with the vertical sliding rod d as and for the purpose set forth —

8th The clamp K composed of the pivoted jaws K K the armature lever and links connecting the same in combination with a stop adaptted to disengage the jaws K K from the movable carbon holder when the same has been dropped to the desired point

9th The combination in an electric lamp of the vertical sliding carbon holder d the clamp. the clamp K the forked armature lever g to which the clamp is linked and an electro magnet the coils of which are included in the circuit which supplies the lamp substantially as described –

10th

The armature lever g and the upper carbon holder and clamp in combination with the pawl g^3 for holding up the end of the lever carrying the clamp substantially as set forth –

Brush #293411

Claims

1st In an electric lamp the combination with the carbon holder and core, of a clamp surrounding the carbon holder said clamp being independent of the core but adapted to be raised by a lifter secured thereto substantially as set forth –

2nd In an electric lamp the combination of the clamp D and adjustable stop D' or their equivalents by means of which the carbon points are prevented from becoming so far separated as to break the electric current and extinguish the light substantially as specified –

3rd In an electric lamp the combination of the core or armature C the clamp D and adjustable stop D' or their equiv-

-ments whereby the points of the carbons are separated from each other when an electrical current is established, prevent-ed from separating so far as to break the current, and gradually feed together as the carbons are consumed substantially as described —

4th

In combination with the core C one or more sustain-ing springs c substantially as and for the purpose shown —

Brush # 212 183

Claims

1st The combination in a single circuit of two or more electric lights each of which is provided with an upper carbon point having mech-anism connected therewith for releasing the carbon holder and allowing it to be fed by gravity and a lower carbon holder the position of which is regulated by the resultant force of axial mag-netism caused by the passage of electricity through a helix on the main circuit and a helix on a shunt circuit substantial-ly as set forth —.

2nd In an electric light reg-ulator the combination ~~of a~~ with a carbon holder of a magnet surrounded by two helices one helix located in the main circuit and the other in a shunt circuit, the main and sub-

ordinary currents passing through said helices in opposite directions substantially as set forth.

3rd In an electric light the combination with a movable core supporting a carbon point and upheld by suitable springs of a helix surrounding the core and connected with the main circuit and a superposed subsidiary helix also surrounding the movable core and connected with a shunt circuit substantially as set forth.

4th In an electric light the combination with a movable core supporting one of the carbon points and a main and subsidiary helix surrounding said core and respectively connected with main and shunt circuits and the upper carbon point and suitable

intersering mechanism whereby the upper carbon point is fed downward by the action of the lower carbon point substantially as set forth.

5th In an electric light the combination with the upper and lower carbon points thereof a helix in the main circuit and a helix in a shunt circuit both of said helices surrounding a movable core with which one of the carbon points is connected and clamping mechanism connected with the upper and lower carbon points substantially as set forth.

Brush # 219213

Claims

1st In combination with the carbons or their equivalent of an electric lamp. a device for governing and controlling the carbons in the following manner to wit - to separate said carbons to ~~a desired~~ a distance required for the desired length length of voltaic arc and to maintain them in a separate relation excepting at momentary intervals of suitable frequency when the said carbons are arbitrarily caused to feed and come into contact with each other by the shunting of a portion or the whole of the electric current from the magnet operating to separate said carbons substantially as and for the purpose specified

2nd In combination with the carbons or their equivalent of an electric lamp a device for governing and controlling the carbons in the following manner to wit to separate said carbons to a distance required for the desired length of voltaic arc and to maintain them in a separated relation excepting at momentary intervals of suitable frequency when the said carbons are arbitrarily caused to feed and come into contact with each other without an interruption of the passage of the electric current through the carbons by the shunting of a portion or the whole of the electric current from the magnet operating to separate said carbons substantially as shown

3rd In combination with the carbons or their equivalent of an electric lamp a device for govern

-ing and controlling the carbons in the following manner to wit - to separate the said carbons to a distance required for the desired length of voltaic arc and to maintain them in a separated relation excepting at momentary intervals of suitable frequency when the said carbons are arbitrarily caused to feed & come into contact with each other without interruption of the electric current in the battery or other source of current by the shunting of a portion or the whole of the electric current from the magnet operating to separate said carbons substantially as shown -

4th An electric lamp wherein the combined clamp and lifting device B' or its equivalent is

directly attached to or in fact is the armature of an electro magnet substantially as shown.

5th In an electric lamp wherein the clamp B' or its equivalent is directly attached to or in fact is the armature of an electro magnet a vertically adjustable floor or rest for said clamp substantially as and for the purpose specified -

6th In an electric lamp wherein the clamp B' or its equivalent is directly attached to or in fact is the armature of an electro magnet a suitable arrangement and device for making said electro magnet adjustable in its position substantially as and for the purpose shown -

7th The contact points or surfaces d.g placed in the-

trical connection respectively with the positive and negative wires (or other conductors) of a circuit upon which one or more electric lamps are placed in combination with suitable device for occasionally bringing said points or surfaces into momentary electrical connection for the purpose at the times of said contact or connection of permitting the carbons or illuminating points of said lamp or lamps as consumed to feed substantially as shown -

8th In combination with the mechanism of an electric lamp the contact points or surfaces d.g or their equivalent and a suitable device for effecting an occasional momentary electrical connection between said points or surfaces for the purpose at

the times of said connection of permitting the illuminating points or carbons of said lamp as consumed to feed substantially as shown -

9th The contact points or surfaces d.g consisting of or faced with carbon substantially as and for the purpose shown -

Brush #219209

Claims

1st In combination with the wires i i' or their equivalent an adjusting helix I or its equivalent through the influence of which the wires i i' are maintained at suitably different temperatures substantially as and for the purposes described –

2nd In an electric lamp wherein the carbon moving apparatus is actuated by the expansion action of heat upon some portion of said apparatus the wires i i' or their equivalents adapted as required for the varying ~~equivalents~~ conditions for maintaining a continuous and steady light to be differently heated said difference of heating automatically caused and controlled substantially as and for the purposes described –

3rd An electric lamp wherein the separation and government of the carbons are effected by

reason of the difference in temperature between the wires i i' or their equivalent substantially as and for the purposes described –

4th In an electric lamp the combination with a moving carbon ~~holder~~ or its holder of a clamp constructed to grasp and move said carbon or carbon holder and in connection with said clamp suitable mechanism adapted to be set in motion or controlled by the expansive effect of heat generated by the electric current operating the lamp substantially as shown –

5th In an electric lamp the combination with a moving carbon holder of a tube C said tube constituting the body or cylinder and a moving element of the dash pot substantially as shown –

Brush # 219211

Claims

1st The resistance M or its equivalent in combination with contrivance adapted to shunt the current from an electric lamp when from any reason said lamp shall offer an abnormally great resistance to the passage of the current operating it substantially as and for the purpose shown.

2nd The combination with the electrodes D' E' of an electric lamp and the mechanism separating and governing said electrodes of a suitable shunt or cut off and a resistance M or its equivalent said shunt or cut off adapted automatically to afford a sufficiently for passage for the current independent of the lamp when from any cause said lamp shall offer an abnormally great

resistance to the passage of said current and said ~~current~~ resistance adapted on the union of said electrodes to weaken or break the circuit through said shunt and thus to reestablish the normal flow of current through the electrodes and reproduce the electric light substantially as shown —

3rd In combination with the carbons of an electric lamp and the mechanism operating them an automatic shunt or cut off device constructed to offer a ~~greater~~ resistance greater than the resistance offered by the said carbons when in conduct said shunt or cut off constructed first to be called into operation to extinguish said lamp whenever from any cause it (the said lamp) shall offer an abnormally great resistance to the passage of the electric current and second to be automatically released from said

operation upon a reunion of the extinguished electrodes by means of said electrodes offering a path to the current of a lower resistance than the resistance offered by said shunt or cut-off device substantially as and for the purposes shown —

Brush # 219208

Claims

1st In an electric lamp two or more pairs or sets of carbons in combination with mechanism constructed to separate said pairs dissimultaneously or successively substantially as and for the purpose specified —

2nd In an electric lamp two or more pairs or sets of carbons in combination with mechanism constructed to separate said pairs dissimultaneously or successively and establish the electric light between the members of but one pair (to wit the last pair separated) while the members of the remaining pairs or pairs are maintained in a separated relation substantially as shown —

3rd In an electric lamp having more than one pair or set-

of carbons, the combination with said carbon sets or pairs of mechanism constructed to impart to them independent and dissimultaneous separating and feeding movements whereby the electric light will be established between the members of but one of said pairs or sets at a time while the members of the remaining pair or pairs are maintained in a separated relation substantially as shown –

4th In a single electric lamp two or more pairs or sets of carbons all placed in circuit so that when their members are in contact the current may pass freely through all said pairs alike in combination with mechanism constructed to separate said pairs dissimultaneously or successively substantially as and for the purpose shown

5th In an electric lamp wherein more than one set or pair of carbons are employed the lifter D or its equivalent moved by any suitable means and constructed to act upon said carbons or carbon holders dissimultaneously or successively substantially as and for the purpose shown –

6th In an electric lamp wherein more than one pair or set of carbons are employed a clamp C or its equivalent for each said pair or set, said clamps C adapted to grasp and move said carbons or carbon holders dissimultaneously or successively substantially as and for the purpose shown –

7th In an electric lamp the combination with a carbon holder and the mechanism moving said carbon holder

of a lifter or support it or its equivalent constructed to operate in compelling said moving mechanism to sustain the weight of the carbon holder after its carbon is sufficiently consumed or removed substantially as and for the purpose described —

Salthe - Boustein - Surg #242 081

Claims

1st The combination in an electric lamp of a transparent shell or globe two metallic rod conductors arranged therein, a carbon ring forming the light giving portion and carbon clamps holding the carbon ring between them fitting upon the metallic rod conductors and screw nuts for tightening said clamps upon said rods substantially as and for the purpose specified —

2nd The combination in an electric ~~lamp~~ light, of a closed transparent shell or globe a carbon or other light giving device arranged therein and two vases or receivers one containing a chemical or chemicals for absorbing oxygen and the other a substance for absorbing nitrogen placed one within the other and arranged in the shell or globe substantially as specified —

3rd The combination in an electric lamp of a closed transparent shell or globe, a carbon or other light giving device arranged therein and a vase or vessel for holding a chemical also arranged in said shell or globe and having a silvered surface whereby it is made to constitute a reflector substantially as and for the purpose specified —

Day Jr #147827

Claims

1st In an electric light the combination with each electrode holder and one electrical circuit of two common electrodes substantially as and for the purposes set forth —

2nd The combination with the magnet R of the carbon supporting rod T arranged to act as the armature of the magnet substantially as described and for the purposes set forth —

3rd The combination with the armature or guide rod of the electric magnet M arranged upon the top thereof in the manner and for the purposes set forth —

4th The combination with the motive power of an electric light and the carbon electrodes thereof

of a connecting rod and gear-
-ings imparting simultaneous
motion to both electrodes substan-
-tially as herein set forth -

5th

The combination with the
motive power of an electric light
of a constant and regularly acting
clock movement substantially as
and for the purposes set forth -

Reynier #191177

Claims

1st The combination in an electric
lamp of the arms B and B' carry-
-ing the carbons with the spring
R' and with the solenoid S' conne-
-cted to one arm and the soft
metal bar to the other as set forth

2nd

A carbon disk for an electric
lamp the said disk being formed
of a compound of carbon sugar
and iron filings in about the
proportions described -

Burgin # 206083

Claims

1st

In an electric lamp the combination of an electro magnet P.P. armature N parallel bars m m' pivoted to the said armature and the pulley support Q attached to said armature whereby when the said armature is pulled laterally by the said magnet the said armature and pulley support are also lifted by the said magnet substantially as and for the purpose described —

2nd The combination with the magnet P.P the armature N and the bars m m' constructed and ~~operated~~ operating substantially as described of the adjusting screw P' attached to the said magnet substantially as and for the purpose described —

3rd The combination with the vertically moving bars E E' carrying carbon holders of a magnet P.P. an armature N bars m m' pivoted at one end to said armature and at the other end to a suitable support the spring O wheel V and pulleys S S' connected with the armature by a support Q cords or chains T.T' and clevers l.l' l'' all constructed and operating substantially as and for the purpose specified —

Rogers #210213

Claims

#1 The combination of an electrode made in two or more sections or points brought into contact with one another at a point opposite the other electrode and within the area of consumption with a motor or feeding power common to them all so that one section cannot be fed faster than the other but will always keep the points even and joined together in the area of consumption –

2nd The combination of A.B geared and driven together at O by any suitable device in combination with A' and B' similarly geared and driven together at O' substantially as and for the purposes herein set forth and described –

Weston #210380

Claims

1st In an electric lamp or torch the combination of one or each of the electrodes with a rod or cylinder composed of lime glass or other material the vapor of which is combustible and is of greater conductivity than the vapor of carbon substantially as and for the purpose set forth –

2nd An electric torch composed of two stationary electrodes fixed in relatively parallel positions and respectively connected with the opposite poles of a battery or other source of electricity and having cemented or otherwise attached to the outer side of one or each electrode a rod or cylinder of lime glass or other material the vapor of which is combustible and is of greater conductivity than the vapor of carbon substantially as and for the purposes set forth –

3rd In combination with an electric lamp, candle, or torch in which the position of the arc is varied by the combustion of the electrodes an automatic igniter composed of a movable conducting body a spring and an electro magnet the helix of which is included in the circuit which supplies the current for the arc, the spring operating to move and hold the igniter against or between the points of the electrodes when the arc is extinguished and the electro magnet operating to move and hold the igniter away from the points of the electrodes when the arc is established substantially as described –

4th The combination with the electrode B of an electric lamp or torch the positive electrode having twice the area of the

negative electrode in cross section and being provided with the longitudinal groove S S in which is cemented or otherwise secured the stick F of lime glass or other material as and for the purposes set forth –

5th.

Broadly in combination with an electric candle or torch in which the position of the arc is varied by the combustion of the electrodes a movable igniter having a variable range of motion automatically governed in its operation by the current substantially as described –

Molera – Cebrian
#212040

Claim –

In an electric light apparatus the combination with a magneto electric machine and a hydraulic motor for actuating the same of a reservoir located above the same motor and connected therewith by a pipe and a pumping engine adapted to elevate the water that passes through the motor to the reservoir whereby said motor is supplied with a constant fall of water to actuate the magneto electric machine in an uniform rate of speed and maintain the electric light at any predetermined candle power substantially as set forth –

Jenkins #212851

Claim

A hollow spherical, hemispherical or spheroidal body made of platinum or other suitable material said body to be brought to incandescence by closing the electrical circuit upon it as and for the purposes herein set forth –

Diehl #214242

Claims

1st A movable carbon holder E consisting of a tube or pipe to which is hinged an armature C with a clamp H attached which alternately clamps and releases the carbon pencil substantially as and for the purpose described.

2nd The movable carbon pencil holder E hinged to a solid frame A by links D' D2 which are standing in an angular position to the carbon pencil holder E substantially as and for the purpose described.

3rd The movable carbon holder E linked to frame A as shown in combination with the carbon pencil clamp H and the electro magnets M' and M2 substantially in the manner and for the purpose described.

Gilman #215910

Claims

1st Constructing the electrodes of an electric lamp of carbons of a cylindrical shell shape, having their planes parallel or nearly so and made to rotate on their axes substantially as described.

2nd The combination of the cylindrical shell shaped carbons with their axes so constructed that while they rotate they advance in the direction of their length toward the light at or near the same speed at which the consumption of the carbon is occurring substantially as and for the purposes herein set forth.

3rd The cylindrical shells of carbon rotating together or nearly so with their top edges even at the point where the arc is formed insulated from each other either by a shell of insulating material on their exterior surfaces or by a plate of some refractory insulating material

of suitable thickness placed between - substantially as and for the purposes herein set forth -

Porter #217744

Claims

1st The arrangement of a carbon or other electrode upon an arm or holder supported upon a spring in an electric lamp so that the carbon or other electrode may close and break the electrical connection vibrating rapidly and freely while at the same time maintaining a firm electrical connection without motion at the point of attachment to the lamp.

2nd An arrangement of a stationary insulated arm or holder sustaining a carbon plate pencil or other electrode and a spring permanently fixed at one end and conveying the electric current while supporting an arm or holder and carbon or other electrode and pressing the carbons or other electrodes together in connection with an electro magnet and an armature attached to the movable holder all so placed in a

electric lamp that the current shall cause one of the carbons or other electrodes to vibrate rapidly and produce the electric light substantially as herein set forth and described.

Gantt #218958

Claims

1st An electric lamp having its sides A B insulated from each other by the central portion C and fitted with movable carbon holders substantially as described and shown.

2nd The combination with the insulated plates A B of an electric lamp of the insulated shaft f the spring k pinions g h racks d e and carbon holders b c arranged for operation by the movement of the regulator rod a substantially as and for the purpose specified.

3rd In an electric lamp the carbon holders b c connected with the insulated sides A B and bent inward to bring the carbons in line as set forth.

Houston – Thomson
220287.
Claims

1st In an electric lamp the combination of the magnet coil M with the platform P P as described the difference in the range of movement of which on the passage of an electrical current is employed through the agency of suitable catches K K' to produce in the manner described a gradual approach of the electrodes on the weakening of the current –

2nd In an electric lamp the combination one with another in the manner substantially as described of the coil C the coil M the platform P P the springs S and F suitable catches K, K'' and the rod R R for the purpose specified –

3rd In combination with the platform P P and the coil M

adjustable stops A A and B B limiting the motion of said platform and coil as described –

4th In an electric lamp the magnet coil M and the platform P P connected elastically to one another by a spring F so that on the passage of an electric current the coil M may be free to move after the platform P P which partially accompanies it has been brought to rest by suitable stops and so that upon the weakening of said current the magnet coil M may partially return to its former position before the platform P P begins its return for the purpose specified –

Houston - Thomson
#220508

Claims

1st In an electric lamp the rod R bearing the upper electrode in combination with rollers P P' resting in frictional contact with said rod so arranged that during the fall of said electrode the supporting rod R imparts rotary motion to the rollers P P' which in turn impart motion to the toothed wheel W' or its equivalent substantially as described and for the purpose specified

2nd In an electric lamp the rod R supporting the upper electrode provided from descending by the frictional contact of the rollers P P' which roller acting in combination with the armature A as described are prevented from rotating when the magnetic attraction upon said

armature is weakened substantially in the manner described.

3rd In an electric lamp friction rollers P P' resting in contact with the rod R supporting the upper electrode the pressure of which contact is adjustable substantially in the manner described so that by the upward or downward movement of said rod rotary motion is imparted to said rollers P P' or their equivalent for the purpose specified -

4th In an electric lamp the combination of an armature A of a shunt magnet K with a train of wheels W W' in such a manner that when the power of the shunt magnet increases the armature acting as an escapement allows rotation of said wheels and when the power of the shunt magnet decreases the armature acts to

check such rotation in the manner substantially as described

5th In an electric lamp the combination with the electrode E of the rod R friction rollers P P' or their equivalents wheel W' armature A acting as an escapement to said wheel and shunt magnet K all operating together as a means of regulating and controlling the downward motion or feeding of said electrode in the manner substantially as described –

6th In an electric lamp the combination of the rod R the friction rollers P P' wheel W' armature A and shunt magnet K for the purpose of controlling and regulating the position of the upper electrode E in the manner described

with the armature N N the electro magnet M M for the purpose of effecting the separation of the electrodes and maintaining the electrode E' in a fixed position during the operation of the lamp –

Pendleton #220728

Claims

1st In an electric light the combination of the upper carbon "a" sliding tube D with points E the cord P armature J the electro magnet B substantially as and for the purposes herein set forth —

2nd In an electric ~~lamp~~ light a key composed of the plate S insulating block V and plates T T' with the wires A C connected thereto and the pin H with insulated knob K and plates Z substantially as and for the purpose herein set forth —

Holcombe #221918

Claims

1st In an electric light apparatus the combination of the con of an axial electro magnet with the iron disk of the feeding device when said con acts as a brake to the disk by the induction action of the con thereon substantially as and for the purpose herein before set forth —

2nd The combination of the helix m con n provided with the teeth n' and disk g provided with corresponding teeth on its periphery substantially as herein before set forth —

3rd The con n of the axial magnet m in combination with the spring o projection c^3 on arm c^2 of the frame c' and disk g substantially as herein before set forth —

4th The combination of the guiding and conducting springs d' d and f f with the carbons and their carrying blocks b and b' and bars c and e substantially as herein before set forth —

5th In combination with disk g provided with the drums i and j the cords i' j' and the carbons and their carrying blocks b b' and springs d d f f substantially as herinbefore set forth —

6th In an electric light apparatus in combination with the magnet m con n disk g of the regulating and feeding devices springs d d f f and carbons a a' with the arch t where by light is produced by the arc of incandescence substantially as herinbefore set forth —

Kipling # 272503
Claims

1st An electric lamp in which are arranged two crossing pairs of carbons that do not contact with each other the carbons of one pair bring pressed against each other at a higher level than and at an angle to those of the other pair as shown and described —

2nd In an electric lamp the mechanism for holding and feeding the carbons consisting of arms E E and C C with their branches I, pulleys K L O bent arms P chains M and weights N substantially as shown and described

3rd The hollow carbon Y containing a solid carbon Y' to be fed into the hollow carbon Y

as and for the purpose set forth –

4th – The combination in an electric lamp of the core B spool B' helix C crosshead D arms E G branches I pulleys K.L.O stirrups W bent arms P chains M and weights N with carbons Z Z' as shown and described –

Houston – Thomson
223646
Claims

1st – In an electric lamp a shunt electro magnet ~~whose~~ whose current is derived from that traversing the arc provided with an armature adjustable with respect to said magnet and the motion of which armature is employed solely to open and close an electric contact which contact when made or broken serves in connection with suitable mechanism provided therefor to adjust the position of the carbon electrodes substantially as set forth –

2nd – In an electric lamp the combination of an electric motor acting to separate the electrodes with a shunt magnet separately acting to open and close an

electric contact ~~which con-~~
~~tact when made or broken~~
the separation of the electrodes
by said motor bring sustain-
-ed until by an increase in
the arc resistance the power
of the shunt magnet is suffi-
-ciently increased to close the
aforesaid electric contact and
thereby divert the electric cur-
-rent from the motor which
ceasing to act permits the
approach of the carbons electro-
-des substantially as described —

3rd In an electric lamp an
electro magnetic device traversed
by a current derived or shunted
from that of the carbon elec-
-trodes the increase or decrea-
-se in the strength of which
makes or breaks an electric
contact said contact comp-
-leting a branch or shunt
around an electro magnetic

device traversed by the direct
current on a portion thereof
which latter electro magnetic
device alone adjusts the position
of the carbon electrodes during
normal operation —

4th In an electric lamp an
adjustable spring S the degree
of elastic force of which acting
in opposition to the magnetic pow-
-er of a shunt magnet K deter
-mines the moment of closing
the contacts p q in virtue of an
increased power of the shunt
magnet due to an increased arc
resistance consequent on an
increased length of arc —

5th In an electric lamp the
separating device M N the inter
vals of action of which are con
trolled by an electric contact
the closing and opening of said
contact being dependent direct-

-ly upon variations in the power of a shunt electro mag-net K whose variations are themselves dependent upon variations in the arc resistance substantially as described —

6th In an electric lamp the rod R supporting an electrode narrowed at 7, for the purpose specified —

7th In an electric lamp the combination of the shunt magnet lever t and roller-lever t' so as to allow the rod R of its support on an abnormal increase in the strength of the shunt magnet substantially as and for the purpose specified —

Weston #225312

Claims

1st Electrodes of prismoidal or cylindrical form placed in nearly parallel positions in the same plane and mounted in feeding holders whereby the electrodes may be progressively fitted as they are consumed and their outer ends maintained in the required proximity —

2nd Electrodes arranged in nearly parallel positions in the same plane and mounted in feeding holders in combination with an electro magnet or magnets K a spiral spring or springs so arranged with reference to the electrode holders that the outer ends of the electrodes are separated when the attractive force of the electro magnet or magnets preponderates over the force of the spring or springs and the outer ends

of the electrodes are brought together when the force of the spring or springs preponderate over the attractive force of the magnet or magnets substantially as described —

3rd — Two tilting or rocking electrode holders adapted to move in the same plane and geared or connected together in combination with an electro magnet and a spiral spring whereby the forces of such electro magnet and spring act upon one only of the tilting or rocking holders and are transmitted to the other rocking or tilting holder by means of the gearing or other connection of the tilting electrode holders with each other substantially as described —

4th — An electro magnet and an armature adapted to swing

across the magnetic field in front of the core of the magnet in combination with a spiral spring and a curved arm or lifter for the purpose of transmitting the force of the spring to the armature carrier with a variable leverage substantially as shown and described —

5th — Electrodes arranged in nearly parallel positions in the same plane and mounted one or both of them in a tilting holder or holders and projecting laterally from a vertically placed board or wall substantially as and for the purpose set forth —

6th — In an electric lamp provided with laterally projecting electrodes arranged in the same plane one above the other the larger electrode D arranged above the smaller electrode C substantially as and for the purpose set forth —

Keith #227264
Claims

1st

In lamps or regulators for electric light the combination of a serrated wheel C the lever S and the electro magnet T when used for controlling the feed movements of the carbon pencils substantially as described –

2nd In lamps or regulators for electric light the combination of a serrated wheel C the point F the slot K the pin L and the bar N when used for effecting the movement apart of carbon points or pencils substantially as described –

3rd In electric lights the mode of controlling the feed movements of carbon pencils which consists in alternately freeing and stopping the motion of a serrated wheel by

varied pressure of a lever brake upon the serrations of the wheel substantially as described

4th In electric lights the mode of controlling the movements of mechanisms of lamps or regulators which consists in using magnetism for varying the pressure of a lever brake upon the periphery of one of the serrated wheels of the mechanism substantially as described –

Braunsdorf #227478

Claims

1st In an electric lamp the lever H provided with the adjustable weight h' and hook h and shoulder h^5 in combination with the armature F^3 and clutch H' as and for the purposes substantially as set forth.

2nd In an electric lamp the clutch H' provided with the arm h^4 in combination with the set screw K^3 stem K^4 and set-screw h^6 as and for the purposes substantially as set forth.

3rd In an electric lamp the open wheel K provided with the annular projection K in combination with the clutch H' lever H armature F^3 and the carbon holder O provided with the rack o as and for the purposes substantially as set forth.

4th In an electric lamp the open wheel K provided with the annular projection K in combination with the clutch H' as and for the purposes substantially as set forth.

5th In an electric lamp the open wheel K provided with an annular projection K in combination with the carbon holder O and the clutch H' as and for the purposes substantially as set forth.

6th In an electric lamp the combination with a movable carbon holder and a circular revolving rim connected therewith of a friction dog or clutch arranged and adapted to engage with said rim and a reading abutment or stop for throwing the clutch out of contact with the rim substantially as shown and described.

Fuller - Mackintosh
#229246
Claims

1st In an electric lamp or light regulator in combination with an electro magnet an armature attached to or forming a part of a curved automatic fulcrum-adjustable lever so constructed that its bearing surface shall rest and rock upon a supporting table the whole being so arranged as to automatically govern or regulate the current of electricity by varying the ~~current of electricity~~ electrical resistance at the light arc substantially as and for the purpose herein specified —

2nd In an electric lamp or light regulator the combination of an electro magnet an armature connected with or forming a part of a curved automatic fulcrum-adjustable lever

with curved bearing surface resting and rocking upon a supporting table and a reciprocating pencil carrier when arranged and operated substantially as and for the purposes shown and described —

3rd In an electric lamp or light regulator the combination of an electro magnet an armature connected to or forming a part of a curved automatic fulcrum adjusting lever resting and rocking on its curved portion on a supporting table and a reciprocating pencil carrier provided with detaining fingers or their equivalent when arranged and operated substantially as described & shown and for the purposes specified —

4th In an electric lamp or light regulator in combination with an electro magnet and an armature connected with or forming a part

of a curved automatic fulcrum adjustable lever with a curved portion resting and rocking on a supporting table a cylinder X and piston N for the purpose of preventing sudden changes in the position of the parts —

5th In an electric lamp or light regulator the combination of an electro magnet an armature attached to or forming a part of a curved automatic fulcrum adjustable lever a cylinder piston and a reciprocating pencil carrier provided with detaining fingers or their equivalent with metallic connections when arranged and operated substantially as described and for the purposes specified —

6th In combination with a reciprocating pencil carrier a weight "a" provided with a dog D arranged and operated in the manner

described and for the purposes specified —

7th The springs h h when used to connect the rocking lever F to the table F'

8th In an electric light lamp or light regulator the combination of the barrel T with the spring S one end of which is attached to the inside of said barrel and the other end attached to the arbor around which said barrel revolves when operating to elevate the movable carriage W along the rods R thereby raising the carbon V as it is consumed at the arc —

9th In an electric lamp or light regulator the combination of the barrel T containing the spring S with one end attached to the inside of said barrel and the other end made fast to the arbor

around which said barrel revolves with the movable carriage W sliding on the rods R and the metallic ribbon or chain S all arranged as shown and specified when operated for the purpose of keeping the carbon V pressed against the detaining fingers V—

10th In an electric lamp or light regulator the combination of the barrel T with the spring S attached to the inside of said barrel and its arbor around which it revolves with the rods R the movable carriage W ribbon S carbon V cap piece r and detaining fingers V when operated for the purpose of keeping the upper part of the said carbon in a fixed position at the light arc during combustion substantially as shown —and described—

Kellogg #229536

Claims

1st In an electric light regulator the combination of an electro magnet in the main or carbon circuit which acts through suitable intermediate devices to separate the carbons and is incapable of further operation while the carbons continue to burn and an electro magnet in a shunt of the carbon circuit arranged to repel positively one of the carbons through suitable intermediate devices for the purpose of lessening the distance between the carbons substantially as described—

2nd In an electric light regulator the combination of a rod carrying one of the carbons with a friction clutch acting continuously on the rod with sufficient force to sustain its weight when loaded with the carbon an electro magnet the armature of which carries said clutch said

magnet bring in the carbon circuit and an electro magnet in a shunt circuit arranged to act through suitable intermediate devices to force the rod longitudinally through its clutch in a direction opposite to the attractive force of the magnet the armature of which carries said clutch —

3rd

In an electric light regulator the combination of a rod carrying one of the carbons a friction clamping device which holds the rod where placed, against the force of gravity acting on it an electro magnet placed in the circuit of a shunt to the arc its armature a clamping device which clamps and carries the rod forward as the armature moves toward the poles of the electro magnet and unclamps the rod as the armature moves away from the poles of the magnet and a circuit controller which opens the shunt circuit when the armature approaches the poles of the magnet and closes the shunt circuit when the armature comes back against its stops substantially as set forth —

4th In an electric light regulator the combination of an electro magnet in the circuit of the arc and the electric generator its armature which carries one of the carbons and establishes the arc when the current passes from the generator to the regulator a rod carrying one of the carbons a friction clamping device which holds the rod where placed against the force of gravity acting on it an electro magnet placed in the circuit of a shunt to the arc its armature a clamping device which clamps and carries the rod forward as the armature moves toward the poles of

the magnet and unclamps the rod as the armature moves away from the poles of the magnet or rests against its stops substantially as set forth —

5th

In an electric light regulator the combination of an electro magnet in the circuit of the arc and the electric generator its armature which carries one of the carbons and establishes the arc when the current passes from the generator to the regulator a rod carrying one of the carbons a friction clamp ~~which holds the rod~~ -ing device which holds the rod where placed against the force of gravity acting on it. an electro magnet placed in the circuit of a shunt to the arc. its armature. a clamping device which clamps and carries the rod forward as the armature moves towards the poles of the magnet

and unclamps the rod as the armature moves away from the poles of the magnet or rests against its stops and a circuit controller which opens the shunt circuit when the armature approaches the poles of the magnet and closes the shunt circuit when the armature comes back against its stops substantially as set forth —

Moffatt # 230801

Claims

1st In an electric lamp or regulator a hollow axial magnet core having a longitudinal slot substantially as and for the purposes described –

2nd In an electric lamp or regulator an axial magnet core made to actuate a pulley carrying a cord one end of the cord being fastened in the slot or groove of a longitudinally slotted or grooved carbon carrier thus moving the carbon carrier substantially as and for the purpose described –

3rd In an electric lamp or regulator a tube or rod acting as a carbon carrier or holder having a longitudinal slot or groove substantially as and for

the purpose specified

4th In an electric lamp or regulator the hollow axial magnet core A having one or more of the lugs K K substantially as and for the purposes set forth –

5th In an electric lamp or regulator an axial magnet having a hollow magnetic core and a carbon carrier or holder free to move in the core in combination with a cord operating by aid of other mechanism to control the movements of the carbon carrier substantially as & for the purposes set forth –

6th In an electric lamp or regulator a longitudinally slotted or grooved carbon holder or carrier supported & operated within an axial magnet core by a cord substantially as herein described –

7th In an electric lamp or regulator the carbon feeder or carrier O provided with a longitudinally slot or groove in combination with the cord N and a pully M both of which operate in and through said slot or groove substantially as and for the purpose specified —

8th In an electric lamp or regulator the lugs K K connected with an axial magnet core when used to effect the separation of carbons to control the feed of carbons or for both purposes substantially as described —

9th The combination consisting of the lugs K K the wheels I I and B B and pully M arranged substantially as described and illustrated —

10th In an electric lamp or regulator the combination of the slotted axial magnet core A the slotted carbon carrier O the pully wheel M and the cord N substantially as and for the purpose specified —

11th In an electric lamp or regulator the combination consisting of the axial magnet core A the carbon carrier O the cord N the carbon carrier R and the pully P substantially as and for the purpose specified —

Holcombe 233096

Claims

1st In an electric lighting apparatus the combination of a small armature with the core of an axial magnet or other moving piece of magnetized metal and feeding devices for forming and maintaining an electric arc between the ends of carbon rods substantially in the manner hereinbefore set forth —

2nd In an electric lighting apparatus the combination the coil e' of an axial magnet lever d and rod g with a clamp or brake for holding the rod g to the lever d and operated by magnetic induction from the core e' substantially as herein before set forth —

3rd In combination the lever d rod g bell crank lever h and

spring K substantially as herein before set forth —

4th In combination the core e' the lever d and rod g with the bell crank lever h provided with the armature i substantially as herein before set forth —

5th In an electric lighting apparatus the core e' and the axial magnet b connected to and operating the carbon rod substantially in the manner described in combination with the armature i arranged to be attracted by the core e' and apply a clamp or brake to arrest the feeding forward of the carbon rod substantially as herein before set forth —

6th In an electric lighting apparatus in combination with the core e' the lever d the rod g the spring e the bell crank lever h the armature i and the spring K substantially

as and for the purpose here-in befor set forth —

7th

In combination the cond of the axial magnet the lever d provided with a socket f the bell crank lever h and the armature i adjustably connected to the lever h substantially as and for the purpose hereinbefor set forth —

Guest #233236

Claims

1st The combination in an electric lamp of a thermoscopic rod fitted for linal expansion by the heat induced by its resistance to the current a lever or levers for multiplying the movement and clamps arranged in connection with the upper carbon to raise the same by movement of the levers all substantially as shown and described —

2nd In electric lamps the expansion rod or rods l levers k levers g carrying the clamps f and rod b supporting the upper carbon holder combined for operation substantially as and for the purposes set forth —

3rd In electric lamps the adjustable supporting cap e combined with rod b clamps f and levers g substantially as and for the purposes set forth —

4th In electric lamps the expansion rods fitted for regulating the distance between the carbons and provided with sections of carbon on other material of low conductivity substantially as shown and described

5th In electric lamps the rollers provided with screws n' plates o and resisting medium p combined with the brackets m and rods l l substantially as and for the purposes set forth —

6th In electric lamps the arm q combined with levers q carbon holder b circuit connections x mechanism for raising levers q substantially as described for the purpose set forth —

Siemens #233289

Claims

1st An electric lamp having vertical carbons, the lower carbon pressed upward by a weight against a clamping pressure near its point which yields as the carbon wastes and the upper carbon being held in a tube between roller which when owing to waste of the carbon the tube descends in obedience to automatic regulating apparatus release the carbon and allow it to descend in the tube substantially as herein described —

2nd The method of effecting the automatic regulation of the distance of carbons in an electric lamp by electrically connecting the carbons through a solenoid coil of high resistance having a core which according as it is more or less attracted by the solenoid bears with

more or less force on the holder of the upper carbon causing it to approach toward or permitting it to recede from the lower carbon substantially as herein described —

3rd — The combination of the high resistance coil E through which the carbons are electrically connected with its core P' the tube C the rollers D and F the serrated wheel G spring G and its adjustable screw g for the purpose of automatically feeding the upper carbon and regulating its distance from the lower carbon substantially as herein described —

4th

In an electric lamp the combination of a lower carbon ~~feed~~ fed upward by a weight acting against a clamp near

its point which yields as the carbon wastes with an upper carbon fed downward and regulated as to distance from the lower carbon by means of a solenoid coil of high resistance through which the carbons are electrically connected and its core acting in combination with a serrated wheel and roller substantially as herein described —

Brockie #233399
Claims

1st In electric lamps giving a periodical and well defined feed to the carbons in addition to and in combination with a periodical readjustment of the arc in order to eliminate and provide against serious errors or differences in the size of the arc consequent upon the said regular feed the said regular feed being accomplished automatically by a comutator substantially as described and not dependent upon the variation of the current or resistance —

2nd In electric lamps readjusting periodically in accordance with this invention the arrangement of two magnets and rotating wheel

substantially as described and shown in Fig 4 whereby the main or readjusting magnet is short circuited after a certain number of impulses of the second magnet in the branch circuit with the commutator in order that two or more lamps in the same circuit may be readjusted at different times by one commutator and one branch circuit substantially as described —

Jacobs #233416

Claims –

1st In an electric lamp the device consisting of the magnet A armatures b.b sliding rod and carbon holder D springs E and pivoted shors C for regulating the feed of the upper carbon downward by means of the rod D overcoming by its own weight and non-return the adjusted friction of the shors C.C substantially as described –

2nd In an electric lamp the springs E E having their elastic thrust both lateral and downward substantially as shown and described for the purposes specified –

3rd The combination in a regulator for electric lamps of the magnet A armatures b.b

and sliding rod D with the adjustable springs E E having both lateral and downward thrust and the pivoted shors C.C substantially as shown and described for the purposes specified –

Harrison #234032

Claims

1st In an electric light apparatus the combination with the electrodes and their controlling cords of a pair of cones arranged to operate upon the cords two cords substantially in the manner set forth —

2nd The combination in electric lamps of magnetic needle K and brake wheel A substantially as hereinbefore described with the brake B and pinching screw B' whereby the angular position of the needle K for any given resisting force of the brake may be varied as and for the purposes herein specified —

Maxim #234835

Claims -

1st In an electric lamp a gravitating carrier for the upper carbon and a train of gearing controlling its descent in combination with an electro electro magnet and armature lever operating a detent engaging with said gearing and a carrier for the lower carbon suspended from said lever substantially as described

2nd In an electric lamp an electro magnet and mechanism for controlling the feeding of the upper carbon located above the focus in combination with a carrier for the lower carbon movable vertically and connected with the armature lever of said electro magnet substantially as described —

3rd In an electric lamp an electro

magnet controlling the feeding mechanism in combination with a dash pot or controlling chamber fixed to the armature or core of the electro magnet and surrounding its head substantially as described –

4th In an electric lamp the combination of a lower carbon carrier and a globe surrounding the focus with this flat supports for said carrier and globe placed edge edge upon the same side of the focus and in the same vertical plane with it substantially as described –

5th The carbon carrier E in combination with the bar O the link H and flexible strip I substantially as described –

6th The carbon carrier E in combination with the adjustable

spring R the spring V rod T and forked head W substantially as described –

7th The side pieces d d' in combination with the screw b pin g and jaws e substantially as described –

8th The combination of the globe B with the support C and the dog c substantially as described

Langley #235258

Claims

1st In an electric lamp the automatic clutch or tongs composed of the rods E pivoted links O and jaws F arranged to act directly upon the carbon substantially as described —

2nd In an electric lamp the combination with the automatic clutch or tongs composed of rods E pivoted links O and jaws F of the lever D connected with said rods and operated by an electro magnet and the stationary tube A for guiding the carbon ~~substantially~~ substantially as described —

3rd In an electric lamp the combination of the electro magnet M armature R having insulated R' connecting rod P lever D spring X automatic

clutch or tongs E.O.F tube A and carbon block all constructed arranged and operating substantially as described —

Rogers 216760.

Claim –

The secondary currents of a Ruhmkorff Coil with or without condenser for establishing and reestablishing the electric arc or light when said arc or light proceeds from a dynamo electric machine or voltaic battery substantially as and for the purpose herein set forth and described –

Garvin 218749

Claims

1st The method herein described of fixing and regulating the position of the electric arc for the production of electric light consisting in exposing the arc to the influence of electric currents parallel or at an angle therewith of magnets or of solenoids substantially as set forth –

2nd The combination with the carbons of an electric light of a directing body circuit magnet or solenoid for regulating and fixing the position of the electric arc substantially as described

3rd The combination with an electric lamp of an ordinary or suitable construction of a directing body or circuit composed of a number coils through which the current

is sent before passing through the carbons of the lamp whereby the arc may be retained in position substantially as described

4th The combination of a directing body or circuit with the carbons or conductors of an electric lamp placed near together and parallel the said carbons being separated by the interval desired for the flashing across of the voltaic arc but without the interposition of any separating insulating or conducting material and being also by preference turned downward substantially as described —

5th The combination with the carbons of an electric lamp and a directing body or circuit of means substantially as described for lighting and relighting when ~~the lamp~~ required the lamp by means

of the currents traversing the afore-said carbons and directing body or current as set forth —

6th The combination in an electric lamp of the carbons an electro magnet a piece of carbon or other conducting material connected with the armature of said magnet and a directing body or circuit substantially as described whereby the voltaic may be established at a point distant from its ultimate position and then carried thereto by the aid of the directing body or circuit as set forth —

Meymal 123923

Claims

1st The retrograde mechanism actuated by the armature of the electro magnet which carries the stop lever in combination the slides which carry the electrodes substantially as herein shown and described -

2nd The retrograde lever having two arms of unequal length the longer arm to produce the retrograde movement of the positive electrode and the shorter arm that of the negative electrode so as to compensate for the increased consumption of the positive electrode substantially as set forth -

McCarty 220982

Claims

1st The two long composition candles connected serially to the two poles of a battery in combination with the calcium stick 16 and with the alloy of iridium and platinum substantially as described whereby they may act move forward toward the center as they burn or wear off substantially as and for the purposes specified -

2nd In combination with the composition candles or sticks of an electric light apparatus asbestus tubes surrounding and protecting the upper and far ends of the candles substantially as and for the purposes described -

3rd In an electric light apparatus the combination of two composition candles or carbon sticks convergent

ging toward each other at their ends a calcium 16 and an alloy of platinum and iridium 18 relatively disposed as shown and described whereby the ends of the candles abut against the end of the calcium stick substantially as shown and for the purpose set forth.

Flannery # 223495

Claims

1st The described mode of regulating the electric current for Electriclighting Consisting in the arrangement of a condenser of electricity in the circuit of the lights provided with a means for increasing or decreasing the surface or capacity of the condenser in the circuit substantially as herein set forth

2nd An electric lighting apparatus Consisting of a generator of electricity one or more lamps and a condenser of electricity arranged in circuit with each other with a means of increasing or decreasing the surface of the condenser in the circuit substantially as herein shown and described

3rd In an electric lighting apparatus a condenser of electricity

arranged in the circuit thereof and formed of a series of sections provided with a switch whereby more or less of such sections may be thrown into the circuit substantially as and for the purpose herein set forth —

4th The combination in an electric lighting apparatus of an electric generator one or more lamps a sectional conductor of electricity and one or more switches controlling the circuiting of the sections with the lamp or lamps and the generator substantially as herein shown and described —

5th An electric lamp consisting of a clock movement fitted with radial arms rotated at slow speed by said movement and provided with

sockets on their ends to receive the carbons the points of which are fed toward each other at an inclination by the rotation of said arms substantially as herein shown and described —

Finney #234261

Claims

#1 In an electric circuit the combination of a galvanometer operated by a leak from the main line through a resistance with a regulator operated by the galvanometer substantially as described

2nd The combination with an electric light or group of lights arranged on a branch from a main electric circuit and operated by a leak therefrom of a galvanometer and a regulator operated thereby each such light or group of lights having an independent regulator and resistance device substantially as described

3rd In an electric lamp the combination of a carbon holder of iron loosely inserted

in a sleeve with the core of an electro magnet entering the sleeve so as to come in contact with the carbon holder substantially as and for the purpose described

Heisler #239044

Claims

1st The combination in a single electric lamp provided with two or more sets of carbons of a mechanism substantially as described the action of which is to allow only one set to be brought into connection for the passage of the electric current and the formation of the voltaic arc the next succeeding set being automatically released by means of an armature to form the voltaic arc on the breakage of the current in the preceding set substantially as and for the purpose set forth.

2nd The combination in an electric lamp having two or more sets of carbons of an escapement lever C or its equivalent and operating magnet F when the same is used to allow one set

of carbons to come together to form the voltaic arc the next succeeding set being automatically released by means of an armature to form the voltaic arc on the breakage of the current in the preceding set substantially as and for the purpose set forth.

3rd In a single electric lamp of the arc type having two or more sets of carbons the lower members of which are by mechanism substantially as described withdrawn or let down simultaneously for the purpose set forth.

4th In an electric lamp having two or more carbons the retarding devices D D' controlled by electro magnet H and provided with escapement flies or spiders g g' in combination with escapement lever C controlled by electro

magnet I substantially as & for the purpose set forth —

5th

The combination in an electric lamp of the single electro magnet I and armatures e i with the carbon holder retarding device and mechanism for moving the lower carbon holder substantially as and for the purpose set forth —

Hoehhausen 246137

Claims

1st The combination substantially as described of a double winding drum depending chains or cords supporting the upper and lower carriers directly a pivoted lever a gear train mounted on said lever and connected to the double winding drum a stop or detent stationary with relation to the train and main and derived circuit electro magnets for controlling the movements of the lever in the manner set forth —

2nd In an electric light regulator a depending frame supported from the regulator casing in combination with a weighted block to which the upper carbon is secured and guideways upon the depending frame which embrace and guide the weighted block or carrier which latter is supported

by a chain or cord and provided with a clamp for the upper carbon substantially as described —

3rd In an electric light regulator a depending frame supported from the regulator casing and provided with cross arms substantially as described in combination with tubular guides attached to the cross arms the lower carbon holder and its supporting rods the latter being adapted to slide in said guides and supporting rods of the lower carbon holder adapted to slide in said guides —

4th The combination substantially as described of a weighted block or carrier for the upper carbon a guide frame for said block bracket or cross arms attached to said frame and

provided with guiding devices and a lower carbon holder adapted to be guided by said devices as set forth —

5th The combination of guide frame F h cross arms f and tubular guides g substantially as described —

6th The combination of guide frame F h cross arms f tubes g guide f' for the carbon pencil substantially as described —

7th The combination of the weighted block to which is clamped the upper carbon the guide ways therefor the lower carbon holder and its supporting rods and the tubular guides attached to the frame work which guides the upper carbon carrier substantially as described —

8th In an electric lamp a safety cut out apparatus comprising a circuit closer upon the lever of the regulator adapted to make and break a safety or branch circuit an electro magnet in the safety or branch circuit and a second circuit closer controlled by a second electro magnet and adapted to make contact and preserve the continuity of the safety circuit when the circuit closer upon the regulator lever has broken contact all substantially as described

9th The combination with the armature lever of the regulator of a cut out circuit closer composed of two pivoted latches one upon the lever and the other attached to the frame of the lamp and adapted to be thrown into contact with a circuit

closing spring and stops for said latches arranged as described to prevent the swinging of the latches in one direction but to allow them to swing freely in the other —

10th The combination of the pivoted latches the circuit closing spring the electro magnet and its circuit closer and circuits arranged substantially as described

11th The combination of a pivoted yielding locking detent for the regulator and a stationary adjustable support for said detent substantially as described

12th The combination of a pivoted locking detent consisting of a weighted lever provided with a locking projection a frame or carrier for said detent pivoted on a stationary support and

~~and~~ means of adjusting said frame or support substantially as described —

13th

In an electric light regulator the combination with the axial core of the electro magnet of a block or bar of magnetic material adjustable with relation to said core substantially as and for the purpose described —